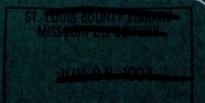
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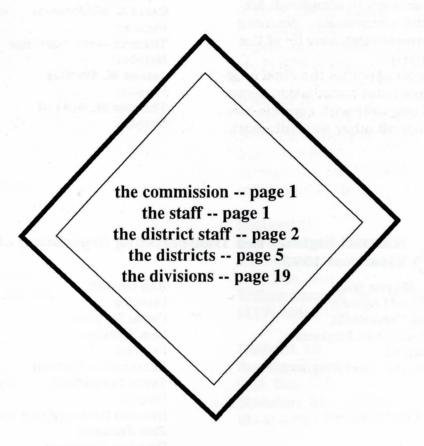
Fiscal Year 1993

July 1, 1992, to June 30, 1993

Annual Report

Missouri Highway and Transportation Department

contents



the commission

The Missouri Highway and Transportation Commission is a six-member, bipartisan governing body for the Missouri Highway and Transportation Department. The governor with the Senate's consent appoints members to staggered, sixyear terms on the commission. No more than three commissioners may be of the same political party.

The commission appoints the chief engineer, chief counsel and commission secretary. The chief engineer with commission approval appoints all other appointments.

Missouri Highway and Transportation Commissioners ending fiscal year 1993

Harry T. Morley

Chairman

John L. Oliver Jr.

Vice Chairman

Carol L. Williamson

Member

Thomas John Barklage

Member

James W. Gamble

Member

Thomas M. Boland

Member

the staff

Missouri Highway and Transportation Department officials ending fiscal year 1993

Wayne Muri

Chief Engineer

Walt Vandelicht

Assistant Chief Engineer

Frank Carroll

Assistant to the Chief Engineer

Design

Joe Mickes

Assistant to the Chief Engineer

Operations

Ray McCray

Assistant to the Chief Engineer

Administrative Services

Rich Tiemeyer

Chief Counsel

Mari Ann Winters

Commission Secretary

Al Laffoon

Division Engineer

Bridge

Gary Chullino

Division Engineer

Construction

Bob Sfreddo

Division Engineer

Design

Clay Wester

Director

Equipment and Procurement

Bob Drusch

Director

Fiscal Services

Lew Davison

Director

Information Systems

Terry Porterfield

Director

Internal Review, Audit and Systems

Jim Jackson

Division Engineer

Maintenance and Traffic

Bill Trimm

Division Engineer

Materials and Research

Rich Millard

Director

Human Resources

Dave Snider

Division Engineer

Planning

Sue Muck

Director

Public Affairs

Art Taylor

Director

Right of Way

Mel Sundermeyer

Director

Transportation

District 1

Northwest Area 3602 N. Belt Highway P.O. Box 287 St. Joseph, Mo. 64502 (816) 387-2350

District 2

North Central Area U.S. Route 63 P.O. Box 8 Macon, Mo. 63552 (816) 385-3176

District 3

Northeast Area Highway 61 South P.O. Box 1067 Hannibal, Mo. 63401 (314) 248-2490

District 4

Kansas City Area 5117 East 31st Street Kansas City, Mo. 64128 (816) 889-3350

District 5

Central Area 1511 Missouri Blvd. P.O. Box 718 Jefferson City, Mo. 65102 (314) 751-3322

District 6

St. Louis Area 1590 Woodlake Drive Chesterfield, Mo. 63017 (314) 340-4100

District 7

Southwest Area 8901 E. 32nd Streed P.O. Box 1445 Joplin, Mo. 64802 (417) 629-3300

District 8

Springfield Area 3025 East Kearney M.O. Box 868 Springfield, Mo. 65801 (417) 866-3576

District 9

South Central Area U.S. Business Route 63 North P.O. Box 220 Willow Springs, Mo. 65793 (417) 469-3134

District 10

Southeast Area P.O. Box 160 Sikeston, Mo. 63801 (314) 472-5333

Missouri Highway and Transportation Department district engineers ending fiscal year 1993

Garry Chegwidden

Northwest Area District Engineer

Ken Fryer

North Central Area District Engineer

Dick Jones

Northeast Area
District Engineer

Dan Miller

Kansas City Area District Engineer

Jim Toft

Central Area District Engineer

J.T. Yarnell

St. Louis Area District Engineer

Ken Stalcup

Southwest Area District Engineer

Willis Graven

Springfield Area District Engineer

Royce Fugate

South Central Area District Engineer

Freeman McCullah

Southeast Area District Engineer







District 1 St. Joseph

District 1 consists of 12 counties in northwest Missouri; the district office is in St. Joseph. There are about 485 employees working in seven departments.

The Maintenance and Traffic Department is divided into 10 areas, which are comprised of 32 subareas across the district. These subareas performed routine maintenance work and specialized work such as replacing crossroad pipes and repairing bridge decks. The new Albany maintenance lot was graded.

District 1 provided extensive input into the statewide sign log revisions task force to improve sign logs. As of June 30, 1993, employees are maintaining 39 traffic signals throughout the district. Temporary islands were installed at the intersections of Route H and Route A (Buchanan County) to better channel traffic. As of June 30, 1993, 445 gropus were enrolled in the Adopt-A-Highway program. New permits were issued to all commercial zone billboard sign owners as a result of the billboard law revision.

District 1 has three resident engineer offices. They are in Maryville, St. Joseph and Cameron. Major construction projects included the following:

Interstate 35, Clinton County -- expand rest area;

Interstate 35, Daviess-Harrison counties -- resurfacing and bridge rehabilitation;

Interstate 35, Harrison County -- resurfacing and bridge rehabilitation;

Interstate 29, Buchanan County -- bridge widening and resurfacing;

Route 169, Andrew County -- bridge replacement;

Route 59, Atchison County -- widening, resurfacing and stabilizing shoulders;

Route 136, Atchison County -- resurfacing and stabilizing shoulders;

Route 6, Buchanan County -- widening, resurfacing and traffic signals;

Route 169, Buchanan County -- widening and resurfacing;

Route 69, Clinton County -- bridge replacements;

Route 159, Holt County -- widening, resurfacing, stabalizing shoulders and bridge rehabilitation;

Route 71, Nodaway County -- grading and culverts;

Route 136, Nodaway County -- concrete pavement and bridge replacements;

Route 169, Worth County -- resurfacing and guard rails.

There were 31 projects awarded in District 1 totaling \$23,185,328 in construction costs. In addition, seven county road bridges with bids totaling \$1,512,929 were let under the Off System Program monitored by the district liaison engineer.

The Design Department has four design squads and one survey party that develop design plans for upcoming projects. Other design responsibilities include liaison between counties and MHTD, coordination of utility work with contract projects, dissemination of information to the public on upcoming projects, and operation and maintenance of the district computer systems.

The Equipment and Procurement Department maintains the district's equipment including 45 passenger vehicles, 40 pickups, 200 trucks (mainly dump trucks) and 280 pieces of off-road equipment. This fleet equals an investment of about \$10.9 million. The district spends about \$.7 million yearly for parts. Operating costs for the 12-county area are about \$2 million yearly.

The Materials and Research Department samples and tests all materials used in the maintenance and construction of roadways. This work determines compliance with the department's specifications and insures only high-quality products are used. Materials and Research personnel have various areas of responsibility that include the following:

- (1) designing and monitoring Portland cement concrete and asphaltic concrete mixtures;
- (2) sub-surface investigations required for highway and bridge design;
- (3) investigating and monitoring the performance of new materials and/or products for use in the department;
- (4) sampling and testing for the Federal Highway Administration (FHWA); and
- (5) soils investigations in connection with the flood of 1993.

Aggregate quality control is a large part of this department's duties. During fiscal year 1993, materials personnel inspected 949,095 tons of various types of aggregate.

The Right of Way Department has five employees. This department acquires right of way for projects, maintenance lots or other de-

partment projects. It also handles the sale of excess property for the district. During the fiscal year, the Right of Way Department purchased 44 parcels of real estate totaling \$141, 380.

The Fiscal Services Department's duties include payroll, time sheets, overdimension permits, inventories and processing commercial invoices. Fiscal Services personnel handle the following: typing, processing incoming and outgoing mail, personnel matters, insurance, maintenance of the district office and garage, the writing of the district report for the MHTD News, appointments, phone calls, expense checks and overtime and salary checks.

The District 1 Highway Credit Union, work-

ers' compensation claims, and insurance and retirement matters are this department's responsibilities.

District 1 conducts cardiopulmonary resuscitation/first-aid classes and commercial drivers' training for employees. Service award dinners are held each year for employees, and preretirement seminars are held every three years.

District 1 has had 16 employees selected as department Employee of the Month awardwinners.

The district also has many activities such as the annual Employees' Association softball tournament to raise money for a needy family at Christmas, bowling tournaments and steak dinners for employees who are retiring.

District 2 oversees highway activities in north central Missouri. The 14 counties of District 2 are Adair, Carroll, Chariton, Grundy, Howard, Linn, Livingston, Macon, Mercer, Putnam, Randolph, Saline, Schuyler and Sullivan. These 14 counties contain more than 8,000 square miles. Within this 8,000 square miles are 3,746 miles of highway — 24 miles of interstate, 733 miles of primary and 2,989 miles of supplementary roads.

Eleven maintenance areas with 32 buildings maintain this large road system. In addition, there are five special crews in two locations to handle tasks such as signing, striping and bridge and pavement repair. District 2 has 314

maintenance employees.

The Design Department has 31 employees, which are headquartered at the district office in Macon. The district office also has the Right of Way Department with eight employees, the Fiscal Services Department with 11 employees and the Equipment and Procurement Department with 29 employees, which includes 15 field mechanics assigned to the district's maintenance buildings.

Of the 11 Materials and Research Department employees in District 2, two are at Marshall. Their main duty is to inspect precast bridge beams at the Quinn precast plant. Most precast bridge beams for Missouri highway projects originate here. The two District 2 inspectors make sure the beams are built according to department plans and specifications

Three resident engineers working from four

offices manage the district's construction work. Major construction projects include the following:

*four-laning Route 63 south of Macon;

*relocating a portion of U.S. 65 in southern Mercer County;

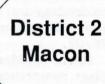
*replacement of the bridge over the Soo Line railroad on U.S. 65 south of Chillicothe: and

*many smaller bridge and resurfacing jobs.

There are 48 construction employees. In all, District 2 has 450 employees.

District 2 has an active and proud history of dedicated and involved employees. One of the earliest MHTD Employees of the Month was Maintenance Superintendent Norman Mears, who is retired. Mears was also selected a state Employee of the Month. Mears was instrumental in achieving the district's safety record, which has been the best in the state for many years.

The district encourages civic and service groups to participate in the Adopt-A-Highway Program. One adoption is for a section of 10 miles or longer; the average adopted section is nearly two miles. District employees have spent many hours explaining the program at meetings and making adoption presentations.



District 3 Hannibal

District 3, headquartered at Hannibal, encompasses the area of Audrain, Clark, Knox, Lewis, Lincoln, Marion, Monroe, Montgomery, Pike, Ralls, Scotland, Shelby and Warren counties. Within its jurisdiction, District 3 has 3,609 miles of two-lane highways. In all, 403 people work at the Hannibal district.

The district has 10 subareas, 38 maintenance buildings and two resident engineer offices at Hannibal and Mexico.

The district's construction projects include the following:

Route 61, Lincoln County, \$1,486,235 -- asphalt resurfacing, grading and bridge rehabilitation; 0.7 miles south of Pike County to south of Route U; 13.8 miles; completed 10/6/92.

Route B, Clark County, \$273,877 -- coldmilling and asphalt resurfacing from Iowa state line to Route 136; 4.9 miles; completed 7/28/92.

Route 61, Marion County, \$394,384 -- asphalt resurfacing on the southbound lane 0.6 miles east of Route 24; 2.9 miles; completed 10/16/92.

Route 151, Shelby County, \$538,898 -- asphalt resurfacing from Route 36 to 3.5 miles north of Route Y; 4.5 miles; completed 10/7/92.

Route 79, Pike County, \$1,059,307 -- grading, drainage, box culvert and asphalt pavement 1.6 miles north of Route H and north of Annada; 1.1 miles; 50 percent complete.

Route J, Ralls County, \$584,250 -- grading, drainage, asphalt pavement and upgrade of railroad track circuitry 0.4 miles south of Route 36; 0.4 miles; 99 percent complete.

Route 24, Marion County, \$4,919,215 -- grading, drainage, concrete pavement and new bridge over the railroad tracks 0.1 mile west of Mississippi River at West Quincy; 1.4 miles; 7 percent complete.

Route 79, Pike County, \$673,653 -- grading, drainage, box culvert and asphalt pavement 2.5 miles south of Route W south of Clarksville; 0.7 miles; 10 percent complete.

Route J, Ralls County, \$4,439,966 -- grading, drainage and asphalt pavement from 1.5 miles north of Route BB to Route 154 in Perry; 5.1 miles; 5 percent complete.

Route 36, Marion County, \$2,057,505 -- grading, drainage, concrete pavement and railroad bridge replacement one mile west of Route U west of Hannibal; 0.8 miles, 2 percent complete.

Route 54, Audrain County, \$6,904,190 -- grading, drainage and bridges for the Mexico bypass (paving not included); 4.7 miles; 97 percent complete.

Route 61, Clark County, \$2,940,610 -- bridge replacements, grading, drainage and asphalt pavement at Fox River and one mile west of Route 136; 1.3 miles; 75 percent complete.

Route 54, Audrain County, \$1,256,558 -- asphalt resurfacing and bridge rehabilitation from Route 22 to Route 19 South Junction; 11.4 miles; completed 1/28/93.

The District 3 Materials and Research Department is responsible for the inspection of material from 35 quarries, eight sand producers, two mineral-filler producer, three cement plants and two asphalt cement terminals. In 1993, 1,717,016 tons of aggregate, 102,235 tons of cement and 3,612,372 tons of asphalt were inspected.

Inspection was also provided at three precast facilities and two prestress/precast plants where temporary barrier curb, drop inlets, manholes, reinforced concrete pipe, earth panels and prestressed bridge girders and deck panels are produced.

A total of 777 identification numbers were assigned in fiscal year 1993. This includes general material samples submitted to MHTD's central laboratory for further testing, trial mix material and material reports. Soil survey reports were completed for five construction projects.

District 3's territory has some unique features. For example, in District 3 the scenic Great River Road follows Route 79 from Hannibal to Old Monroe, and the Lewis and Clark Trail follows Route 94 in Warren and Montgomery counties. The Mark Twain Lake and Clarence Cannon Dam are major recreational attractions in District 3.

The district office and garage buildings were modified, and the Computer-Aided Drafting and Design (CADD) system was implemented fully.

As of June 30, 1993, District 3 had 424 groups enrolled in Missouri's Adopt-A-Highway program.

District 4 oversees the highway and transportation system for west central Missouri. It is headquartered in Kansas City at 5117 East 31st Street.

The district is made up of eight counties: Cass, Clay, Henry, Jackson, Johnson, Lafayette, Platte and Ray. The district has 37 administrative personnel, 121 construction personnel, 83 design employees, 32 equipment and procurement employees, nine legal employees, 405 maintenance and traffic personnel, 33 materials and research employees, three human resources employees, two employees from risk management, one planning employee and 18 right of way employees. In all there are 744 District 4 employees.

The Maintenance and Traffic Department maintains 2,733 miles — 202 miles of interstate, 569 miles of primary and 1,696 miles of supplementary roads and 265 miles of outer roads. There are 34 maintenance buildings under the supervision of nine area supervisorsand six special crew buildings under the supervision of nine special maintenance supervisors.

Maintenance and Traffic administered a total of 78 Adopt-A-Highway permits. The Maintenance and Traffic Department started a new program in January 1993 called the Motorist Assist Program. It has been very successful. An old resident engineer's office was remodeled to house the Motorist Assist crew.

The Construction Department has seven resident engineer offices. The major project under way is the Bruce R. Watkins Drive. The project's estimated cost is \$200 million; it is scheduled to be completed in 2002. The project's total length is 10 miles.

The Design Department has eight squads preparing plans for roadways. This department also prepares all agreements and administers various programs with county and city governments. District 4's Design Department is working with the city of Kansas City to develop a special project at the Bruce R. Watkins Drive (formerly known as the South Midtown Roadway). There will be extensive landscaping, aesthetically enhanced bridges and a jogging trail. This a a good example of what city/state cooperation can achieve.

Right of way valued at nearly \$1,807,428 was acquired during the fiscal year, and relocation benefits amounting to \$144,513.14 were paid to parties affected by district projects.

The materials and research staff inspects

materials used in the district's construction and maintenance programs to assure that quality materials are used. Inspection of materials for other districts is also provided.

The district counsel's office is comprised of a district counsel, a senior assistant counsel, two assistant counsels, one paralegal and three legal secretaries. The office is responsible for preparing, filing and defending cases on behalf of the Highway and Transportation Commission in the 20 county circuit courts in districts 4 and 1.

The district counsel's office manages approximately 160 court cases each fiscal year. The types of cases handled by the district counsel's office include condemnation, workers' compensation, general liability, fleet vehicle liability, property damage, inverse condemnation and various miscellaneous cases. During the 1993 fiscal year, the district counsel and assistant counsels condemned land for right of way for six construction projects, tried and settled 32 condemnation cases, settled 15 workers' compensation cases and handled approximately 25 other types of cases.

The district has 696 pieces of equipment that are maintained by 17 field, five shop mechanics and two mechanic helpers.

he Personnel and Fiscal Services departments offer support services for the district.

District 4's American Red Cross Standard First-Aid Program trained an additional 135 employees and recertified another 141 employees in Adult CPR.

Service awards honored 77 employees with 1,710 total years of service.

The district's third Chat With the Chief was held Jan. 22, 1993, with 36 employees meeting Chief Engineer Wayne Muri at Heart of America 4-H Youth Center in Jackson County.

District 5 **Jefferson City**

District 5 has eight departments including fiscal services, legal, equipment and procurement, maintenance and traffic, construction, design, right of way and materials and research. The district has approximately 515 employees. There are 11 maintenance areas, 43 sub-area buildings, six special crews and four construction

project offices.

The district covers a land area of 7,787 square miles and encompasses the 13 counties of Benton, Boone, Callaway, Cole, Camden, Cooper, Gasconade, Maries, Miller, Moniteau, Morgan, Osage and Pettis including the Lake of the Ozarks area and the cities of Sedalia, Columbia and Jefferson City. The district oversees 78 interstate miles, 819 miles of primary system highways and 2,558 miles of supplementary system roads.

The major construction projects in District 5 are as follows:

Interstate 70, Boone County -- construct new interchange at Route 63 in Columbia.

Route WW, Boone County -- replace two box culverts along with two sections of pavement east of Columbia.

Route 54, Callaway County -- adding a lane for dual pavement. Route 54 Business Junction north of Fulton to 0.6 mile north of Route 00: 18.8 miles.

Interstate 70, Callaway County -- 24 feet asphaltic concrete resurfacing of westbound lane, one mile east of Route JJ to 0.5 mile west of Route D.

Route 5, Camden County -- relocation of routes 5 and F intersection.

Route 7, Camden County -- bridge replacement over Dry Auglaize Creek.

Route 54, Camden County -- continue widening to five lanes through Osage Beach.

Route 50, Cole County -- resurface from Moniteau County line to 1.6 miles west of routes D and T.

Route C, Cole County -- relocation between Russellville and Route D.

Interstate 70, Cooper/Boone counties -remove bridge median on Rocheport bridge and build crossovers in preparation of bridge deck replacement.

Route 50, Gasconade County -- 24-foot asphaltic concrete resurfacing 1.3 miles

west of Route K to Route 19 north junction; 5.5 miles.

Route 100, Gasconade County -- raise the grade and relocate for 0.5 mile in Hermann.

Route 133, Maries County -- bridge replacement over Little Maries River.

Route 50, Moniteau County -- resurface from 0.4 miles east of Route 87 to Cole County line.

Route 5, Morgan County -- widen and resurface Route 5 through Laurie.

Route J, Morgan County -- replace low water crossing with new bridge over Brushy Creek.

Route P, Osage County -- bridge replacement and relocation at Maries River.

Route Y, Pettis County -- installing storm sewers along with beautification near the main entrance to the State Fairgrounds in Sedalia.

As of June 30, 1993, District 5's Adopt-A-Highway program had 658 adoptions with more than 1,038 miles adopted in the district's 13 counties.

District 6 moved its headquarters from Kirkwood to Chesterfield in April 1993. The district office had been located in Kirkwood since the early 1930s. The move enabled all the engineering departments of the district to be located under one roof for the first time in more than five years. The move was celebrated with an open house in June 1993.

The district's mission statement reads, "Our mission is to provide the St. Louis metro area with a quality transportation network meeting today's demands and tomorrow's expectations." The district, which employs more than 800 people, is committed to achieving this mission. With the introduction of the total quality management philosophy into the department, the district has found many new ways to work together effectively and efficiently. Many employees are involved in the process as trainers, facilitators and team members.

In January 1993, District 6 began the task of training all its employees in the quality improvement process. By June 30, 1993, more than one-third of its employees were trained. All should be trained by the end of fiscal year 1994.

Besides trying to work together better internally, the district is attempting to improve its relationship with the public. Many department employees have spent hours speaking with high school students, area businesses, governmental agencies and service organizations in the metropolitan area.

District 6 is responsible for maintaining 1,468 miles of roadway in St. Charles, St. Louis, Jefferson and Franklin counties and the city of St. Louis.

The maintenance and traffic department includes 24 maintenance buildings supervised by nine area supervisors. An additional eight supervisors oversee operations such as signals, lighting, striping, signing, bridge, landscape and special repairs. District 6 maintenance and traffic employees are responsible for 671 signal installations, which is about 50 percent of the statewide total.

The department also oversees the Adopta-Highway program. As of June 30, 1993, 847 groups had enrolled in the program. The district, with its three landscape crews, has received many compliments on recent efforts to enhance area landscaping.

District 6 introduced the Motorist Assist Program in February 1993. The program assists stranded motorists on the area highways and helps prevent these incidents from causing traffic tieups. The program operates 16 hours per day, five days a week. Through June 30, 1993, Motorist Assist drivers had helped nearly 3,000 motorists providing gas, oil, air and other light mechanical repairs.

The construction department has 10 resident engineer offices staffed by approximately 180 engineers and technicians. During the past year, this District 6 department has been busy with several major projects that should be completed during fiscal year '94.

One project, which was completed in fiscal year 1993, was the new Route 115. The new Route 115 highway and Missouri River bridge from Interstate 270 to Route 94 in St. Charles were opened in December 1992. Gov. Ashcroft, Sens. Danforth and Bond, and many state and local officials attended the ceremony on the new bridge. The route was renamed Route 370.

Construction continued at the Interstate 55/ Interstate 270 interchange in south St. Louis County. The last contract is scheduled to begin in fiscal year 1994.

An oversized truck hit the Route 100 bridge over Interstate 44 on May 24, 1993, and it was closed to traffic. Bridge maintenance crews replaced several girders and reopened it in a record time of less than three weeks. Design moved up a letting from fiscal year 1994 to fiscal year 1993 to replace the bridge with greater clearance for Interstate 44 traffic.

The fiscal year also saw much progress on the new interchange at Route 40 and Interstate 270 in west St. Louis County. The project is slated for a late 1993 completion.

The design department has 13 squad leaders and more than 65 engineers and technicians.

District 7 **Joplin**

District 7, headquartered in Joplin, has 433 full-time employees: 21 administrative, 36 construction, 26 equipment and procurement, 284 gaintenance and traffic. 11 materials and research, nine right of way and 46 design. Approximately 28 temporary employees and 46 summer students were employed during 1993.

In December 1992, the district office staff moved into a new district office building at 32nd Street and Duguesne Road in Joplin. The two-story building has 34,928 square feet and sits on a 20-acre site along with the district equipment and procurement building. The previous home of District 7 was a 41-year-old building at Fourth and Range Line in Joplin.

The district has 37 maintenance buildings. The Joplin Maintenance Building and sign and signal shop have been relocated to the new district office complex. There are three resident engineer offices located at Neosho, Carthage and Nevada.

The district maintains 3,331 miles of highway; this includes 60 miles of interstate, 729 miles of primary and 2,542 miles of supplementary roads.

The district striping crew completed more than 6,300 miles of striping this year. They added no-passing zones and edgeline to many routes to improve safety. The striping crew operates with waterbased acrylic paint and high-heat paint in two stripers. The district maintains more than 42,000 signs with each inspected annually.

Permit inspectors issued 470 permits. Of the 470, 27 were for commercial entrances, 129 for private entrances and 314 for excavation permits.

District 7, the southwest district, encompasses the 11 counties of Barry, Barton, Bates, Cedar, Dade, Jasper, Lawrence, McDonald, Newton, St. Clair and Vernon.

Major construction projects in District 7 during the period of July 1, 1992, to June 30, 1993, included the following:

*Completion of the new Southwest District office and equipment and procurement facility at 3901 East 32nd Street.

*F.A.F.-60-1(11) in Newton County -- grading, bridges and concrete pavement to improve vertical and horizontal alignment on

Route 60.

*IM-IMG-44-1(56) in Newton County -resurfacing Interstate 44 from Route 71 to the Oklahoma state line.

*F.A.F.-54-1(22) and F.A.F.-54-1(23) in Vernon County -- replacing bridges.

*F.A.F.-13-2(33) in St. Clair County -- resurfacing Route 13 from Osceola to south of Route

*Awarding of the first three projects on Route 71, which will go from Interstate 44 south to Arkansas.

As of June 30, 1993, the district had 463 Adopt-A-Highway groups covering 749 miles for litter pickup, mowing and beautification and two Growing Together projects.

The district Materials Department inspects for compliance with the specification all the materials used in constructing and maintaining the highways. This includes more than 910,000 tons of aggregate, 183,300 tons of cement and 25,290,000 gallons of asphalt. Other major items inspected include plain and epoxy-coated reinforcing steel and dowel bars, galvanizing of steel signal and lighting poles, sodium and calcium chloride, concrete pipe, oil, grease and anti-freeze. They also perform soil surveys, condition surveys and bridge foundation investigations to use in highway and bridge District 8 encompasses a 12-county area with 3,648 miles of state highways. The district boundaries extend north including Hickory County, which includes the Pomme De Terre Lake area. To the east are Laclede, Webster, Wright and Douglas counties. They include the cities of Lebanon, Mountain Grove and Ava. To the south, District 8 runs to the Arkansas state line. This area includes the Ozark Mountain region, home of Branson and the lakes area.

The Ozark Mountain Region is southwest Missouri's leading tourist attraction with the Branson area expecting more than 4.5 million tourists this year. District 8's main metropolitan area is Springfield with a population of

approximately 150,000 people.

District 8 has 486 employees with most employees working from 39 maintenance buildings throughout the district and project offices in Springfield, Buffalo and Branson.

The district office appearance continues to stand out because of the building maintenance and roadside enhancement crews' efforts.

Employees of the Month were Highway Maintenance Supervisor E.F. Gann, October 1992; District Auditor Cliff Boyd, November 1992; Senior District Payroll Clerk Linda Dickison, March 1993; and Highway Maintenance Supervisor Larry Ridnour, June 1993.

The district's construction season was busy, especially in the Branson area. The District 8 Design Department has been very busy preparing plans especially in the Branson area. Activities include working with the consultant on the development of the Ozark Mountain Highroad, Route 65 north of Branson and also Route 248 in Branson. The department prepared plans for the James River Freeway and other projects including bridge replacements, resurfacing and other miscellaneous projects within the district.

In the Springfield area, construction continues on the James River Freeway between Kansas Expressway and existing Route 60 west of Springfield.

Other major construction projects are as follows:

- *Interstate 44 Greene County;
- *Interstate 44 Laclede County;
- *Route 65 Dallas and Hickory counties;
- *Route 744 Greene County;
- *Route 76 Taney County;
- *Route 83 Polk County;
- *Route F Laclede County;

*Route 13 -- Polk and St. Clair counties;

*Route P -- Christian County:

*Route 160 -- Christian and Stone counties;

*Route 160 -- Greene County.

District 8 Springfield

The Adopt-A-Highway program continues to be a great success in the Ozarks. As of June 30, 1993, 687 groups had adopted a portion of District 8 highway through the program. Work also started on the four Growing Together projects in the district. Growing Together is a cooperative beautification program between the department and state and local governments, civic groups or others.

District 9 Willow Springs

District 9, head-quartered in Willow Springs, encompasses the 13-county region of Carter, Crawford, Dent, Howell, Iron, Oregon, Pulaski, Phelps, Ripley, Reynolds, Shannon, Texas and Washington counties.

The district's Maintenance and Traffic Department has an authorized staff of 11 office and 286 field personnel. They maintain the largest district in the state, which includes 3,726 miles of roadway. Of this, 78.5 miles are interstate; 1,048 miles are primary routes, and 2,599 miles are supplementary routes. These routes are maintained from 36 maintenance and three special crew buildings, which are divided into 11 sub-areas.

The Adopt-A-Highway program has become increasingly popular in the District 9 region. As of June 30, 1993, 372 groups had signed their adoption papers in District 9.

The Construction Department in District 9 has 49 employees. In 1993, the following major projects were completed:

*resurfacing 19 mines of Interstate 44;

*two bridge replacements on Route 49 at Dillard;

*five bridge replacements on Route A between Bunker and Route 19;

*new pavement and curb and gutter on Route BB in Rolla;

*two bridge replacements on Route 8 in Phelps and Crawford county;

*various asphalt overlays were in progress throughout the district.

The Right of Way Department's 10 employees have been in the real estate business during fiscal year 1993. They acquired right of way for highway construction totaling \$750,896. This included 96 parcels — 86 by negotiation settlement and 10 by condemnation or 90 percent by negotiation and 10 percent by condemnation.

Payments totaling \$73,274 were made this year under the Relocation Assistance and Payment Program to assist displaced families in relocating. During fiscal year 1993, 31 relocation claims were processed and paid. Also, appraisals were obtained on 104 parcels.

Receipts from rental property acquired for future construction and from the sale of right of way and facilities no longer needed for state highway purposes totaled \$231,814.

The District 9 Design Department has 30 employees. Currently they are designing 108 projects. On the present Right of Way and Construction Program, they are actively doing design work on 95 projects. Two are being done by consultants, and two are being designed by another district. Major emphasis has been on Route 63 between Willow Springs and West Plains.

The Fiscal Services Department has 10 office personnel and two maintenance personnel. They handle payment of payrolls and commercial and equipment invoices. They're also responsible for daily and monthly reports from the maintenance buildings and construction offices. Further responsibilities include life and health insurance, workers' compensation, credit union, building maintenance and district correspondence.

The District 9 Equipment Division has 32 employees: 18 field mechanics and helpers, 11 shop personnel and four stockroom employees. In the 13-county district, they take care of about 553 units including 45 cars, 54 pickups and carryalls, 190 trucks, 87 tractors, 43 loaders, 36 distributors, 47 motorgraders and 51 other units. The stockroom personnel oversee a parts and supplies inventory of \$252,848 and have an average monthly sale of \$31,000.

The Materials and Research Department has 10 employees. They inspect 19 quarries, 115 gravel sources and 13 ready-mix plants. In fiscal year 1993, they inspected 706,473 tons of aggregate including 552,692 tons of crushed stone; 144,664 tons of gravel; 6,650 tons of sand and 2,467 tons of porphyry.

Materials personnel inspected 1,429,475 gallons of emulsified asphalt. Many materials such as calcium chloride, sodium chloride, paint, corrugated metal pipe, reinforced concrete pipe and others were inspected, too.

District 9 has had three Employees of the Month. Bob Woodring, district highway design engineer, was the October 1983 honored employee. Steve Hutchinson, field mechanic,

was the May 1986 Employee of the Month. Dave Smith, senior highway designer, was honored as the November 1991 Employee of the Month.

The district office employees are now enjoying the new district office building. Nestled in the midst of the scenic Ozarks, the exterior is constructed of natural rock. The interior is spacious and lovely in its rose and gray decor.

District 9 has been busy with new innovations. Implementation of the new freight mail system has been a valuable asset. It is proof of positive results from the district's quality improvement process.

District 10 encompasses the counties of Scott, New Madrid, Mississippi, Pemiscot, Dunklin, Butler, Wayne, Stoddard, Bollinger, Cape Girardeau, Madison, Perry, Ste. Genevieve and St. Francois. The Naylor Maintenance Building in Ripley County is also part of District 10. The 14-county district in southeast Missouri covers 7,984 square miles and has 3,858 road miles.

District 10 has approximately 535 full-time salaried employees. During fiscal year 1993, 15 employees retired; 10 permanent employees were hired. Two employees transferred from the district. One employee resigned. No employees were released, and three employees died. The district hired 45 college students and 46 seasonal maintenance workers.

The District 10 Highway and Transportation Employees' Credit Union, managed by the district personnel services agent, serves the financial needs of the state Highway Patrol and Highway and Transportation Department members. Total membership was 1,002 with total assets of \$5,825,464.85. During the past fiscal year, 449 loans totaling about \$1,626,918.45 were processed.

District fiscal services employees processed about 8,841 checks to suppliers; checked and extended totals on more than 11,500 daily crew reports; added more than 621 items to the tool inventory; took inventory at 36 maintenance buildings, five resident engineer offices and the district office; and verified that 3.555 pieces of equipment were in service and tagged properly. In all, 621 new items were inventoried, about 140 items were transferred and 450 items were deleted from the inventory. Also, material, petroleum and capital investment inventory were taken at all maintenance buildings. Other items included processing commercial invoices, physical inventories and usage reports for 826,000 gallons of petroleum products.

Fiscal services employees verify time for

personnel including full time, temporary, seasonal and overtime.

This department also processed 107 property damage claims, 83 auto liability claims and 103 new workers' compensation claims. Fiscal Services issued about 844 overdimension permits from June 30, 1990, to July 1, 1993.

The Right of Way Department Annex is located approximately one-half mile from the district office complex. It has 11 employees. This department acquired 119 parcels with 99 of those negotiated and 20 condemned. There were 23 active projects during this timeframe. There were 87 staff appraisals performed during this period. The three segments of the Cape Girardeau Bridge is still requiring much of the time of the employees in this department. Also, the district process right of way relinquishments on many excess parcels of land and made appraisals for changes of access.

The Materials and Research Department inspects the materials used to construct and maintain District 10 highways. Materials had 15 full-time employees and one summer employee during fiscal year 1993.

Materials has many projects where employees are performing independent assurance sampling and federal-aid sampling and testing. They verify that the job control or acceptance inspector follows proper test procedures and that the equipment being used for acceptance testing is working correctly. This testing is performed only on federal-aid projects.

The district soils and geology technologist completed seven soil surveys, sampled 22 quarries and investigated numerous slides.

The Materials and Research Department is helping on a statewide research project

District 10 Sikeston called Life Expectancy Determination of Corrugated Metal and Reinforced Concrete Pipe. The project will compare these two types of roadway crossroad drainage pipe.

Materials and research personnel have inspected various materials for the district Maintenance Department such as glass beads, brush and weed killers, grader and maintainer blades, sodium and calcium chloride for ice control, paint, anti-freeze, gear oil and grease, hydraulic fluid, lubricating oil, asphalt and various aggregates.

n District 10, personnel inspected the following quantities: various aggregates -1,246,415 tons; cement — 49,919 tons; asphalt - 8.445.425 gallons: black and epoxy coated reinforcing steel - 2,111,609 pounds; corrugated metal pipe — 25,511 linear feet; reinforced concrete pipe — 1,530 linear feet; plastic joint compound — 600 pounds; reinforced concrete I-girders — 246; reinforced double teegirders — 42; reinforced bridge deck planks -2,786; precast concrete median barriers - 110 linear feet; guard rail and fencing — 63,988 linear feet; fertilizer — 23,532 pounds; paint — 610 gallons; welded wire fabric — 645,035 square feet; and calibration of concrete R/M plants — 16.

The Design Department has 52 employees with five design squads and two field survey crews. Design has completed detailed construction plans for 30 highway projects totaling nearly \$30 million, which were let for construction in fiscal year 1993.

Route 60 remains a top priority. The goal of upgrading Route 60 to a four-lane freeway facility is becoming a reality one section at a time. The Design Department continues to produce design plans to fill in the missing segments. The design plans for four additional Route 60 projects were completed and let in fiscal year 1993. These included plans for several new bridges and box culverts west of Dexter and paving plans for dual lanes near Poplar Bluff. The plans for additional Route 60 projects are currently in various stages of development and will be let at future dates.

Bridge replacements comprise most of the design projects handled by the district Design Department. Many plans for resurfacing projects, not including the maintenance leveling course jobs, were produced and let in fiscal year 1993. The jobs handled through the district liaison engineer during the past year included the review of federal-aid, off-

system bridge projects. Approximately \$885,000 has gone toward the construction of five projects and the engineering work on nine projects. Also federal-aid urban (FAU) funds of \$789,000 have been processed on four projects during the year.

Fiscal year 1993 saw big changes regarding the computer system in the district design department. A second district computer specialist position was added to the department to help with the ever-increasing demands of that position. The RISC 6000 system was installed allowing us to run ProCADAM in addition to the exisiting CADAM system, increasing design capabilities. Eight additional CADAM work stations and two laser plotters were added to increase user access. Software upgrades were added including the introduction of Lotus 1-2-3, which replaces SuperCalc software.

he Construction Department has five resident engineer offices and 72 employees. Fifteen employees work at Flat River, 16 at Jackson, 16 at Sikeston, 13 at Poplar Bluff and nine at Kennett. There is one district final plans and reports processor. The Construction Department is an annex of the district and shares a building with district materials.

Seventy-two projects were active during fiscal year 1993. They totaled approximately \$34,696,435.73. Thirty-four of those projects were contract leveling projects.

Some major projects are as follows: *Route 62, New Madrid County,

\$1,289,375.62:

*I-55, Pemiscot County, \$1,657,297.04;

*Route 61, Cape Girardeau County, \$1,013,969.14;

*Route 61, Pemiscot County, \$1,799,089.75;

*Route 412, Dunklin County, \$4,530,521;

*I-55, Cape Girardeau County, \$3,162,807; and

*Route 60, Stoddard/Butler counties, \$5,182,740.

During this fiscal year, the Construction Department had the following task forces and quality circles: structures, bituminous, resident engineers, construction reports and submittals.

The flood of 1993 affected approximately \$1,000,000 worth of work in this district on active construction projects.

Maintenance and Traffic has 12 areas, 36 sub-areas and special crews in Sikeston with about 360 employees.

The district ranks first in highway miles and third in land area. District 10 has 198 miles of interstate, 742 miles of primary and 2,918 miles of secondary roads.

The following is the breakdown by county of the 1,366 state highway system bridges maintained by District 10: Bollinger — 61; Mississippi — 62; Ste. Genevieve — 64; Butler — 109; New Madrid — 142; Scott — 97; Cape Girardeau — 140; Pemiscot — 118; Stoddard — 161; Dunklin — 107; Perry — 50; Wayne — 117; Madison — 60; and St. Francois — 78.

n the past year, the district resurfaced 160 miles of highway with one-inch, machine-laid hot mix leveling course. Maintenance forces resurfaced about 27 miles of road with a cold mix levleing course. District 10 used 115,000 years of mix to patch and make routine surface repairs. It also mowed about 40,000 acres of right of way.

District 10 administers the Adopt-A-Highway program in its region. As of June 30, 1993, the district had 450 groups in the program.

Maintenance and Traffic employees installed three new signals and replaced one controller. There were 37 new mobile radios added to the fleet.

Snow and icre removal operations were normal. Roadway flooding and other weatherand nature-related repairs were about normal. Concrete bridge deck repaired continued to increase this fiscal year. Concrete repairs picked up in the early summer of 1993.

he District 10 Equipment and Procurement Department maintains and repairs more than 674 pieces of equipment. Besides normal equipment maintenance, there have been several equipment modifications implemented. The district purchased 10 International crew cabs, three new tractor mowers, six four-wheel drive loaders, three backhoe trailers, 21 pickup trucks, one striper, one tractor with wheel saw and 10 new passenger cars during fiscal year 1993.

Three stockroom employees in the procurement section issue local purchase orders, order parts and supplies on requisitions or job tickets, check commercial invoices against purchase orders and code items for payment. They post inventory records and make sure they balance monthly, charge labor from job tickets, prepare garage invoices and keep district tire, battery, gas, oil and other records.

District 10 has implementated the district <

freight system. It is a truck/trailer combination that makes deliveries to the norther and southern regions of the district four times a week.

As part of the department's concern for the health and welfare of its employees, District 10 has participated in an in-house cardiopulmonary resuscitation (CPR) and first-aid training session sponsored by the American Red Cross.



Bridge Division

The Missouri Highway and Transportation Department Bridge Division is responsible for the design, estimating and special provisions, rating and shop inspection of the state highway system bridges. The division also reviews bridge replacement plans funded through Bridge Replacement Off-System and Federal Aid Urban monies.

During fiscal year 1993, the division completed 109 new bridge and retaining wall designs for letting. Of this number, 84 were designed for major system routes and 25 for supplementary routes.

The total length of new structures contracted during the fiscal year was 17,404 feet at a cost of \$36,853,245. Of these amounts, 4,159 feet were contracted at a cost of \$7,144,323 for the supplementary system.

In addition to the new structure designs, 96 designs were contracted for repairing, widening or extending for 26,582 feet of existing bridges at a cost of \$17,585,006.

teel fabrication inspectors made 284 trips to 26 fabrication shops to inspect bridge steel, and 248 sets of shop drawings were processed.

The division was involved in liaison with consulting engineering firms on 27 bridge projects, which included three major bridges.

Besides structure design, the division rated county and municipally owned bridges as part of the Federal Highway Administration Bridge Replacement and Rehabilitation Program.

Division personnel reviewed programming eligibility for 79 proposed bridge replacement projects, 76 preliminary layouts and 111 sets of plans, specifications and estimates for bridge structures on the Federal Off-System Bridge Replacement and Rehabilitation and Federal Aid Urban Programs.

he Chief Counsel's Office has its headquarters in Jefferson City and five district counsel offices located in Kansas City, Jefferson City, Kirkwood, Springfield and Sikeston. There are 35 attorneys and 35 support staff for a total staff of 70.

As of June 30, 1993, the Chief Counsel's Office had a caseload of 540 cases and 360 Highway and Transportation Commission and other agency administrative proceedings for a total of 900 files open.

The following summary of activity by the office covers the fiscal year July 1, 1992, to June 30, 1993:

Condemnation Cases

Disposition was effected in 176 cases, and 101 exceptions were filed. There were 45 jury trials reported. The sum of \$1,962,773.88 was collected on final judgments where a return from the commissioners' award was due the commission.

Administrative Hearings

Outdoor Advertising — There were 14 hearings conducted involving 25 signs.

Utility Relocation — Three hearings were held

Relocation Assistance — Two hearings were held.

Highway Beautification Cases

Outdoor Advertising — Six cases were opened; 11 were closed.

Junkyard Cases — Two cases were opened; four were closed.

Risk Management Cases

General Liability — Fifty cases were filed against the commission, and 58 were closed. There were 17 jury trials reported.

Fleet Vehicle Liability — Eleven cases were filed against the commission, and 34 were closed. There were three jury trials reported.

Property Damage — Two cases were filed by the commission, and five were closed.

Inverse Condemnation — One case was filed against the commission, and three were closed.

Workers' Compensation Cases — There were 92 claims filed with the Missouri Division of Workers' Compensation, and 266 claims were closed.

Workers' Compensation Subrogation Cases
— Eleven cases were filed by the commission, and 15 were closed. There was one jury trial.

Chief Counsel's Office

Contractor Cases — Two cases were filed against the commission, and 10 cases were closed.

Miscellaneous Cases — Twelve cases were filed against the commission, and nine were closed.

Discrimination Cases — Two cases were filed against the commission, and none were closed.

Retirement Board Cases—Two cases were filed against the commission, and none were closed.

Medical Insurance Plan Cases -

No cases were filed against the commission, and none were closed.

Annexation Cases — Two cases were filed against the commission, and one was closed.

Other Agency Claims

Employment Security Appeals -- No claims were filed against the commission, and four were closed.

Equal Employment Opportunity claims — Nine claims were filed against the commission, and six were closed.

Missouri Commission on Human Rights claims — Seven claims were filed against the commission, and five were closed.

EPA/DNR claims — Two claims were filed against the commission, and none were closed.

Miscellaneous — Numerous contracts were prepared and reviewed, legislative bills drafted and reviewed, and legal opinions rendered.

Construction Division

The Missouri Highway and Transportation Department's (MHTD) Construction Division administers construction contracts. After the Highway and Transportation Commission awards construction work, MHTD issues a notice to proceed to each successful contractor and

establishes contract finances. The division's personnel inspect each project so the department keeps aware of the construction progress.

During fiscal year 1993, construction work continued on interstate routes 55, 70 and 270 and Route 40 in the St. Louis area; Route 70 and Route 71 in the Kansas City area; Route 54 in the Callaway/Audrain county area; and Route 63 in the Boone County area. Construction also continued on Route 60 Current River bridge in Van Buren.

Interstate system contracts included upgrading existing dual facilities to interstate standards and implementing the latest safety features. About 92 miles of interstate road are being rebuilt or brought up to the latest safety standards.

The division administered the construction or re-construction of approximately 1,358 miles of roadway. The division administers the Off-System Bridge Repair Program and the Federal Aid Urban Program. These programs have increased during the fiscal year.

Primary and supplementary system contracts involved new construction, widening and resurfacing projects and bridge replacements. The contracts included rural and urban construction; the projects are financed with a combination of federal aid and state funds.

The division provides supportive services for disadvantaged-owned firms. MHTD continues to seek out and certify minority and women contractors to help meet the goals of the disadvantaged enterprise program. Bidders on construction projects are obligated to take affirmative action in using disadvantaged business enterprises. Through affirmative action efforts, \$34,264,423 in state and federally assisted contracts and subcontracts were awarded to disadvantaged business enterprises during fiscal year 1993.

The division maintains a reasonable cost of inspecting construction projects by upgrading equipment, using new technology and computer programs and continuing employee training. The division also participates with contractors in a value engineering program, which helps produce an equal or better product at less cost.

Active	pro	iects
MULIVE	PIU	CULS

System federal-aid funds	Awarded in fiscal year '92	Awarded in fiscal year '93	Total
Interstate	10	36	46
Primary	42	119	161
Supplemental	2	30	32
Off-System			
Subtotal	54	185	239
100 percent			
state funds			
Interstate	0	0	0
Primary	0	45	48
Supplementary	3	77	77
Subtotal	3	122	125
Total projects	57	307	364

he Design Division prepares MHTD's roadway improvement studies and plans and handles the letting of highway project contracts.

MHTD holds meetings and formal hearings to explain the need and purpose of highway improvements and to obtain public comment. Coordination with local, state and federal agencies is required.

During fiscal year 1993, the division obtained tentative location approval on one highway improvement holding 10 formal location and design public hearings and several public meetings.

As part of its duties, the Design Division uses aerial photography to conduct photogrammetric surveys early in a project. Field surveys supplement this work and give basic information for plan development.

Phase IV of the Computer-aided Design and Drafting (CADD) system was begun during fiscal year 1993. This phase will span 24 months. A transition was made to use RS/6000 workstations on a distributed network of computer servers, replacing the mainframe drafting terminals. Additional workstations were provided to districts 3, 4, 5, 7, 8 and 10. The CADD training staff made district visits and conducted training at the facility in Jefferson City. About 100 students were given 16 hours of instruction on the use of new workstations.

During the fiscal year, 50 designers were given 40 hours of instruction on using roadway design software, Civil Engineering Automation Library (CEAL). Construction personnel also were introduced to the design software. Forty inspectors received 40 hours of CEAL training with the CADD staff's support.

New surveying data collection procedures were implemented for Design and Construction surveyors. The 19 Design survey crews and 24 Construction personnel were given 20 hours of instruction. A surveying seminar also was provided to all Design surveying personnel.

A group of seven instructors from the Bridge Division were trained in using CEAL to begin implementation in their division.

Twenty percent of contract plans are produced using CADD. These jobs account for 42 percent of the estimated construction contracts. All of the surveying data collected from photogrammetry and from ground surveys are now stored in electronic form.

The Design Division administers the department's Value Engineering (VE) Program. Through the program, department personnel apply the value engineering discipline on

selected projects, items, procedures and processes to reduce cost and improve productivity.

During 1993, MHTD completed VE studies for 12 construction projects and two other studies on procedures, operations and standards. These studies resulted in an estimated savings of \$3.2 million. Thirty-eight additional employees were trained at a value engineering workshop presented by the National Highway Institute. The department realized an additional savings of \$120,000 from recommendations submitted by contractors on active construction projects.

Design

Division

The Design Division assesses environmental impacts for each project. This includes air quality evaluation, noise studies and cultural, social and economic considerations. The division finished cultural resource survey studies on 86 projects and reviewed more in-house. Extensive environmental work was completed for two major projects that require Environmental Impact Statements. These projects are the Page Avenue extension and the Ozark Mountain Highroad at Branson. Environmental work for roadway improvements at Whiteman Air Force Base also were completed.

Before letting highway improvements, MHTD acquires right of way, makes arrangements for utility adjustments and obtains permits and licenses from state and federal agencies. The division obtained approval of detail plans for right of way acquisition on 82 projects.

The Disadvantaged Business Enterprise (DBE) program lets businesses owned and controlled by socially and economically disadvantaged individuals or women participate in contracts or subcontracts financed in whole or in part with federal funds. DBE firm participation during fiscal year 1993 was \$37.1 million.

The Design Division also administers several federal-aid programs that provide funding for cities, counties and rail-highway crossing safety improvements.

The Surface Transportation Program -- Urban (STPU) provides federal funding for streets and highway construction in cities and urban areas with populations between 5,000 and 200,000. About \$4.5 million was obligated in Missouri cities for this program. The STPU funds generally finance 80 percent of the cost of eligible

ally finance 80 percent of the cost of eligible projects with local jurisdictions providing

22

20 percent matching funds. During fiscal year 1993, 19 projects were approved for construction under this program.

In addition to these funds, urban areas with populations greater than 200,000 are provided federal funds for use on projects located in the urban areas. During 1993, 14 projects were approved for construction in those areas. These projects required an obligation of approximately \$11 million.

The STPU Bridge Replacement Program financed three bridge replacement projects in urban areas, at a cost of about \$5.7 million. Bridge replacement funds finance 80 percent of the cost with local agencies responsible for the remaining 20 percent.

The Off-System Bridge Rehabilitation and Replacement Program provides federal funds for

bridge repair and replacement on county roads not on a federal-aid system. About \$9.1 million was obligated for projects qualifying for this program with counties providing 20 percent matching funds. During the fiscal year, 56 projects were approved for preliminary engineering charges; 47 were approved for construction, and 45 projects were placed under contract by the counties.

During the fiscal year, 11 bid openings were held. Projects totaling \$343.6 million were placed under contract. An average of 4.4 bids were received per project.

Prices decreased during the past year with the Missouri average composition cost index being 99.2 compared to base year 1987. The 1993 cost index reflects a 35 percent decrease when compared with the 1992 cost index of 102.8.

The following table provides a summary of projects awarded during fiscal year 1993:

1993 Report	Awards (in million \$)	Miles	Projects
Interstate System	93.6	67.0	35
Primary System	121.6	274.1	83
Supplementary System and			
Maintenance Work	115.7	1437.3	284
Off-System (County Bridges)	9.1		47
STP Urban (Off State System)	15.5		8
	355.5	1778.4	477

Equipment and Procurement Division

The Equipment and
Procurement Division
procures and maintains
an equipment fleet
that efficiently and
effectively lets the
Missouri Highway and
Transportation Department (MHTD) carry out its
functions. As of June 30,
1993, the division was maintaining 6,064 units such as passenger cars, trucks, carryalls, trac-

tors, mowers, motorgraders and others.

The department needed 3,140,610 gallons of gasoline and 4,864,103 gallons of diesel fuel to operate the fleet this fiscal year. MHTD also used 8,761 gallons of antifreeze, 95,680 gallons of lubricating oil, 45,125 gallons of hydraulic oil and 57,887 pounds of multipurpose gear oil and lithium grease. The department contracted for tires and tubes costing \$856,435; tire chains costing \$121,525.26;

and shop equipment, parts and supplies totaling \$13,994,473.47 during fiscal year 1993.

This division also provides the tools, supplies and materials required in the department's operations. In an effort to give better service to the user divisions, MHTD is using annual contracts for many items instead of periodic purchases.

During fiscal year 1993, MHTD continued purchasing batteries, pneumatic tires and tubes for direct shipment from the supplier to each district office. This saved in freight costs.

To save money various supplies and equipment are produced at the Headquarters' Garage when labor is available. The Equipment and Procurement Division continued to haul freight and internal mail with department vehicles. A pilot project to expand the internal freight system in districts 9 and 10 was successful; this will be expanded to the other eight dis-

tricts. District freight systems will reduce the number of trips into the district stockroom by field crews.

Materials purchased for highway maintenance during fiscal year 1993 are as follows:

Various Types of Asphalt	35,391,530	gallons
Gravel/Stone/Chat	898,000	tons
Paint	720,000	gallons
Reflectorizing Spheres	5,000,000	pounds
Sodium Chloride	209,200	tons
Calcium Chloride	2,273	tons
Agricultural Seed	75,000	pounds
Treated Wood Sign Posts	18,270	each
Steel Sign Posts	12,000	each
Grader Blades	284,000	pounds

he Fiscal Services Division includes two major functions: accounting and risk management. General accounting and expenditure control are a direct responsibility of this division. The division maintains all department financial records including the accounting systems for the Missouri Highway and Transportation Employees' and Highway Patrol Retirement System; the Missouri Highway and Transportation Department and Missouri State Highway Patrol Medical and Life Insurance Plan; and the workers' compensation and fleet vehicle liability self-insurance plans.

Accounting responsibilities also include federal billings and collections, legislative and internal budget preparation and all payment processing.

The division processed 225,750 checks during fiscal year 1993. Disbursements for highway and transportation functions equaled \$886,109,206.75. Other state departments disbursements from highway funds equaled \$125,980,519.63. Total disbursements from all funds equaled \$1,012,089,726.38.

The department is self-insured for workers' compensation and automobile liability. A contracted administrator processes the workers' compensation claims. During this past fiscal year, there were 1,257 workers' compensation cases. And the workers' compensation subrogation recovery unit collected \$157,844.11 involving 54 claims. In-house claims staff processed 906 automobile liability cases. Although not technically self-insured, all general liability claims are processed within the Risk Management office of the Fiscal Services Division. A total of 1,103 general liability claims were processed during the past fiscal year.

This division also administers the regulations and policies of the Highway and Transportation Department and State Highway Patrol Medical and Life Insurance Plan, which includes the State Furnished Life Insurance Plan and the Optional Life Insurance Plan. As of June 30, 1993, there were 10,790 health insurance plans, 8,157 statefurnished life insurance plans and 8,477 optional life insurance plans in force.

From July 1, 1992, through June 30, 1993, there were 150,678 health claim payments with \$25,443,173.01 paid in benefits. During the same period, there were 18 life claims under the state-furnished plan and 40 life claims under the optional life plan with \$270,000 and \$983,410.31 in death benefits to survivors.

During the fiscal year, the property damage recovery unit collected \$721,224.90 involving 1,432 claims.

The department's safety program is also part of the Risk Management office of the Fiscal Services Division. The department's safety coordinator supervises the safety program. Safety officers are located in the Kansas City, St. Louis and Springfield districts.

An employee health coordinator was added to the Risk Management Office on Jan. 1,1993. The employee health program includes the development and implementation of the preemployment/post-offer physicals and the drugtesting and awareness program.

The Fiscal Services Division is also responsible for the Highway Employee and Highway Patrol Retirement System accounting and payroll records. From July 1, 1992, through June

30, 1993, the division processed 50,605 retirement system benefit payments totaling \$46,144,706.75.

Fiscal Services Division

Human Resources Division

tricts.

As of July 1, 1992, the Personnel Division changed its name to the Human Resources Division. The division provides assistance to MHTD in matters such as employment; college recruiting: employee training and development; wage and salary matters; personnel policy; affirmative action administration; employee relations; and personnel records and statistics maintenance. Human Resources professionals are located in the Main Office and most dis-

The division develops and implements programs to ensure that competent job applicants seek employment with the department, employees are properly trained and fair and productive working conditions exist.

The department is an equal opportunity employer and considers affirmative action a priority. The Human Resources Division and MHTD's districts strive to attract qualified minority and female applicants. The division monitors Equal Employment Opportunity (EEO) progress and keeps the headquarters office and districts informed. The division also monitors requirements of Title VI of the Civil Rights Act of 1964 to ensure that disadvantaged and womenowned business enterprises may participate in state and federally assisted programs.

New employee orientation and training is conducted through MHTD's supervisors, the Human Resources Division and outside specialists. Employees may attend training conferences and seminars related to their work. MHTD's operational divisions provide technical skills training. The Human Resources Division conducts and coordinates an integrated curriculum of supervisory and EEO training.

In January 1989 the department implemented a three-year Graduate Engineer Development Program for new civil engineers, which continues to be administered statewide. The program exposes the new engineer to the department's disciplines, policies, procedures and personnel in preparation for advancement. Each graduate engineer has a training plan for the first three years of employment.

MHTD has expanded its summer hire program to include summer internships for civil engineers. The internship program not only helps the department meet its peak season needs in the technician or para-professional areas but also lets students gain

experience and learn more about department careers. MHTD employs interns statewide in the various engineering divisions.

MHTD tries to maintain a positive work environment for high employee morale and motivation. All personnel transactions are reviewed to guarantee equal and uniform salary administration and policy application.

The Human Resources Division keeps the department's job specifications current by conducting about 100 job audits per year.

The division processed 317 claims for unemployment compensation during the fiscal year and obtained 35 denials out of 48 protested claims. The division did not protest 269 processed claims because the claimants were temporary employees who became unemployed through no fault of their own and were entitled to unemployment compensation.

The division maintains centralized personnel records. The personnel data is used for employee profile, employee trends and staffing needs analysis. Computer applications have improved personnel record-keeping.

MHTD had 6,284 salaried employees and 902 part-time and seasonal employees on June 30, 1993. MHTD hires temporary and emergency employees for such duties as snow removal.

rom July 1, 1992, to June 30, 1993, the division processed 211 employees for retirement. Fifty were 55 to 59 years old with 30 or more years of service. Two were between the ages of 55 and 59 with 15 or more years of service, and three were between the age of 55 and 64 with 10 or more years of service. Also 94 employees between the ages of 60 and 64 with 15 or more years of service were processed. and 16 employees were 65 or older with four or more years of service. Twenty-three employees elected to retire under the 80 and out provision, which became law June 19, 1992. Beginning Aug. 27, 1992, and ending Aug. 27, 1993, the law allowed employees to retire with full benefits if they were 55-59 years old and had years of service that when added to their age totaled 80 or more.

Nine employees qualified for long-term disability and three qualified for normal disability. Eleven vested members also elected to begin annuity benefits. The Highway Employees' and Highway Patrol Retirement System currently is paying benefits to 3,817department retirees and survivors; 69 of these are long-term disabilities.

The average salaried MHTD employee has given almost 14 years' service to MHTD.

Internal Review, **Audit and Systems** Division

The Internal Review, Audit and Systems Division has three areas of responsibility in the Missouri Highway and Transportation Department's (MHTD) cost

accounting systems. The first area encompasses operational reviews at the division and

district level in such activities as construction. right of way, preliminary engineering, administration, financial management, information systems, planning and transportation. These

reviews determine if division and district operations comply with published department procedures and state and federal regulations including the economy and efficiency of the operations. This insures the integrity of developed and incurred costs.

The division's second area of responsibility involves auditing final invoices for utility and railroad relocations, federal-aid urban (FAU) projects, bridge replacement off-systems (BRO) projects, transportation grants and miscellaneous billings to the department.

The third area includes developing, revising and maintaining the department's accounting systems and written operating and coding procedures.

Audit totals from July 1, 1992, to June 30, 1993, were as follows:

Utilities	88	\$4,856,151.32
Railroads	40	3,568,856.38
Federal Aid Urban	29	26,823,778.38
Bridge Replacement Off-System	185	14,702,272.02
Miscellaneous	26	4,623,240.10
Pre-Audit Contract Reviews	193	12.881,701.32
	561	\$67,455,999.52

The Information Information **Systems** Division

Systems Division provides mainframe and microcomputing facilities, application programming, data base facilities, data entry and support for personal computer and office automation for the Missouri Highway and

(MHTD). The division also oversees MHTD's telephone communications systems including voice and data.

Transportation Department

In its fourth phase of implementing Computer Aided Drafting and Design (CADD), the department began moving away from a mainframe base by installing powerful microcomputer workstations in the Planning, Bridge and Design divisions and in seven of MHTD's 10 district offices. Both the roadway design software (CEAL) and the drafting software (Professional CADAM) are supported on 26 these workstations. The workstations are networked together to allow sharing of CADD programs and data and plotting devices.

The number of personal computers in the Main Office and district offices continued to grow substantially to approximately 2,000. All new personal computers acquired for MHTD staff were connected to existing local area networks (LANs), which provide common services for applications, data and print distribution. The data connections between the Main Office and district offices were enhanced by upgrading the speed of communication lines and adding routing devices in each location, creating a wide-area network (WAN). The widearea network enables each of the local area networks to communicate with each other and to existing mainframe services, providing a more efficient method for distributing data among the main and district offices.

Efforts in using Geographic Information Systems (GIS) were increased by installing more powerful workstations in the Planning Division to facilitate computerized mapping. A new software application developed jointly by

Information Systems and Planning divisions was implemented to allow highway and bridge database information having geographic coordinates to be selectively queried and displayed in map form. Called Dynamic Query System (DQS), the new application provides an easy method for representing visually much of MHTD's spatially oriented information.

A new direction in developing software applications was taken with the acquisition of an integrated Computer Aided Software Engineering (CASE) package. Three pilot applications were developed in CASE as a learning effort and to validate its potential benefit to MHTD. Information Systems cooperated with information systems organizations in several other state agencies to introduce CASE methods and

standards across much of state government.

Other new applications developed without CASE included a system for tracking personnel changes, a bridge management system and a contract bid award system. Many of the microcomputer-based engineering support programs in the Bridge and Design divisions were rewritten so they could be shared in a LAN environment.

MHTD has 2,100 computer users with access to network, electronic mail and mainframe services. More than 12,000 jobs per month are processed through the mainframe.

Materials and Research Division The quality of materials for construction and maintenance of the state highway system is the primary responsibility of the Materials and Research Division.

Materials and Research

employees in each of the 10 districts coordinate field inspections for the sampling, testing and approving of materials. Employees at the central laboratory in Jefferson City test, evaluate and approve materials used in Missouri's highways and bridges. This division's tasks include material specifications preparation; geotechnical investigations; pavement type selection; soil, bridge and pavement

special investigations and research.

The central laboratory is an approved and accredited facility that is inspected regularly by national inspection agencies such as the Cement and Concrete Reference Laboratory (CCRL) and the American Association of State Highway and Transportation Officials Materials Reference Laboratory (AMRL). AMRL inspected the laboratory in January and June 1993. CCRL inspected the laboratory in July 1992. In October 1992, the Central Labora-

condition surveys; aggregate and general mate-

asphaltic concrete mixtures design and control:

rials quality assurance; Portland cement and

tory became an American Association of State Highway and Transporation Officials fully accredited laboratory.

Many materials routinely tested in the field also are tested in the laboratory to insure statewide uniform testing procedures and for specification compliance to assure quality materials are used. The laboratory also tests materials requiring special equipment and procedures. Efforts to automate laboratory tests through digital data acquisition continues.

The division continues to develop and monitor new asphaltic concrete mixtures designed to help prevent premature rutting and add increased life. Stone mastic asphalt (SMA) and mixes containing polymers or different types of scrap rubber from used tires are some of the special mixes being tried. SMA is a special-purpose surface pavement mixture, which is rut resistant and based on European technology. Additional projects are in the development stage.

New product evaluation is an important division function. The need to make quick pavement and bridge repairs has generated "fast-setting" concrete patching materials and overlay systems, which division personnel evaluate. Three projects with an asphaltic overlay containing reclaimed ground rubber tires have been constructed and are being monitored for performance.

This division also obtains and interprets the subsurface information needed to design highways and bridges. Drilling equipment

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and crews from the division's headquarters in Jefferson City obtain the data. Crews and equipment are dispatched throughout the state.

Personnel also investigate various geotechnical matters including foundation stability and settlement of embankments; slide corrections; subgrade and base stabilization; environmental studies; bridge and wall foundations; sinks and mine subsidence; and the use of fly ash and other waste products. Special investigative techniques include electrical resistivity and seismic; down-hole photography and sonar; and field permeability testing.

Sampling and testing for hazardous materials is a new field the division is undertaking.

The department strongly supports the Strategic Highway Research Program (SHRP). SHRP has approved 21 test pavement sections in Missouri. MHTD also has submitted for SHRP's approval many special construction and maintenance effectiveness test sections. Materials and Research is committed to implementing

new SHRP-developed technology. Equipment has been purchased, and personnel are being trained to conduct testing on bituminous binders in accordance with SHRP procedures.

A department representative serves on the Federal Highway Administration Technical Working Group for Concrete and Structures, which is continuing with the SHRP implentation program.

The Materials and Research Division has a representative on the technical research committee, which reviews completed and proposed research work and solicits problem statements on research from MHTD employees.

The division is continually improving its operations through Quality Improvement training, automation and internal technical training.

From July 1, 1992, through June 30, 1993, a total of 19,857 samples were tested, including those of an experimental or investigative nature.

Commonly used materials inspected, tested and approved during fiscal year 1993:

Aggregates	11,218,919 tons
Cement	497,048 tons
Reinforcing Steel	20,220 tons
Culvert Pipe	
Corrugated Metal	259,035 linear feet
Reinforced Concrete	195,817 linear feet
Vitrified Clay	0 linear feet
Joints - Bituminous, Fiber	241,764 linear feet
Joints - Rubber	81,091 square feet
Joints - Metal	253,911 linear feet
Guard Rail	198,658 linear feet
Posts, Metal	44,760 posts
Precast Units	
Median Barriers	2,085 units
Concrete Bridge Beams	1,232 units
Concrete Inlets	1,240 units
Concrete Manholes	360 units
Piling and Round Posts	2,050 linear feet
Bituminous Material	
Cutback	12,191,959 gallons
Penetration	0 gallons
Emulsified	22,809,367 gallons
Asphalt Cement	64,372,772 gallons
Paint	860,224 gallons

he Maintenance and Traffic Division is responsible for the maintenance and traffic operations of the 32,458-mile state highway system. The division also maintains 20 rest areas along the interstate system, 68 roadside parks on the primary and supplementary highways and 387,000 acres of highway right of way.

Since 1974, the department has built commuter parking lots along many high-traffic highways to conserve energy. There are about 90 parking lots with approximately 5,600

parking spaces.

One of the division's major expenses is maintaining low-type bituminous surfaced roads. In calendar year 1993, the department surfaced 1,750 miles of low-type roadway under the maintenance leveling course program. In addition, 1,227 miles were resurfaced by contract under the contract leveling course program.

In 1986, the department began installing liquid calcium chloride or liquid magnesium chloride dispensing units at maintenance facilities along high-volume interstate and primary routes. Liquids are applied to salt and other abrasives to make these materials more efficient in removing snow and ice from the roadway.

Contracts were awarded for five maintenance buildings during 1993.

The division is in the middle of a five-year program to remove underground fuel tanks because a small leak in the underground fuel tank could gradually contaminate the soil, groundwater and environment. In lieu of the underground tanks, the division is placing above-ground tanks within above-ground concrete containments. The concrete containment will contain any spilled fuel. All underground tank removals will be completed by December 1993. Approximately 720 tanks have been removed at this time. The division is also improving its methods in handling and storing hazardous waste. At some locations salt domes are being used to totally contain salt in storage so the environment will not be harmed.

In 1988, the department, cooperating with the Department of Corrections and Human Resources, employed incarcerated personnel in maintenance activities. These crews perform labor-intensive duties such as landscape planting and maintenance and erosion control.

By using incarcerated people, the department benefits by having an economical labor pool complete duties that would be neglected.

The incarcerated personnel Maintenance benefit by and Traffic participating in a typical Division work environment. The inmates are from minimum security institutions, have no history of escape and are within two years of release. We now have crews working in districts 1, 4, 5, 8 and 10 and the Highway

Gardens.

Along with the University of Missouri-Columbia and Department of Agriculture, the division sponsored a one-day training program on pesticides. The program trains employees to properly use pesticides and will improve the safety and effectiveness of pesticide use on department right of way. This program began in 1987. More than 600 employees are certified.

During this fiscal year, Missourians showed much interest in the department's Adopt-A-Highway program. This program, introduced in 1987, increases public awareness of environmental problems along Missouri highways by letting the public adopt highway sections to mow, beautify or clean-up. By 1993, there were 5,548 adoptions covering about 8,514.4 miles of state highways. Most adoptions are for litter control, but more than 180 adoptions are for beautification plantings.

The public's desire to improve the appearance of highway right of way helped develop the department's Growing Together Program. Growing Together is a cooperative effort between the department, state and local governments and private groups to enhance the looks of state highways. MHTD and the departments of Conservation and Corrections and Human Resources help local agencies and groups in beautification projects such as landscaping interchanges and intersections. There are currently 30 projects.

In the Growing Together program, the groups can plant shrubs, trees, flowers and other greenery. Local city or county governments propose areas to be developed. After MHTD approves the area, the local government or civic group funds the project. The department helps with design and bidding. When possible, incarcerated people plant trees, shrubs and flowers.

The Conservation Department gives seedlings to plant along the beautification area borders. There are several active projects

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throughout the state.

http://www.eight.com/districts/permits

Division personnel do routine inspections of all span-type bridges on the state highway system. Besides routine inspection, the hanger pin assembly unit on bridges is ultrasonically tested to detect pin failures every other year.

The division uses two under-bridge inspection units called "Snoopers." Both Snoopers performed fracture critical bridge member inspections and indepth inspections on approximately 800 bridges this past year. All submerged portions of bridges are inspected by the dive team at least once every five years.

A school to train off-system bridge inspectors was held in October 1993. Division repair crews completed structural repairs on 156 bridges, and division paint crews painted 69 bridges during fiscal year 1993.

Activities funded from 402 Program funds under 3+ Standards of the Missouri Highway and Safety Program and coordinated by the department are as follows.

Bridge Engineering Assistance Program — This program helps political subdivisions obtain information on the structural adequacy of bridges under their jurisdiction. Two consultants retained by the Highway and Transportation Commission perform these services. The consultants determine structural adequacy, establish posted weight limits and develop priorities for bridge repair or replacement. Structural adequacy reports and inventories were conducted on 64 bridges from October 1990 to September 1992 at an average cost of \$1,250 per bridge.

Traffic Engineering Assistance Program — This aids political subdivisions who have traffic engineering problems that need review but don't have personnel to do these reviews. Two consultants retained by the commission perform the service; they completed 20 studies in political subdivisions from October 1991 to

September 1992. The average cost was \$3,950 per study.

A total of 31 new traffic signals were installed at intersections statewide. Three of the 31 intersections were signalized by permit, and 17 intersections were signalized by maintenance forces or maintenance contracts.

The division approved the installation of 11 closed-loop traffic signal systems across the state. These will improve traffic progression and provide monitoring of the traffic signals from the district offices.

Contracts were let to expand the use of twoway mobile radios and handheld units in various divisions and district positions.

MHTD opened the new Headquarters Sign Shop May 1, 1988. Since its opening, more than 677,000 new signs have been made. MHTD's Reclamation Plant salvaged about 336,000 signs.

Sheltered workshop employees are used to reclaim button copy letters. This process saves time and money in sign production and provides the workshop with desirable duties. Since Nov. 20, 1990, it has resulted in a savings to the department of \$83,536.45.

In calendar year 1992, the department placed 92,001 miles of centerline, laneline and edgeline stripes, using approximately 781,000 gallons of paint. To complete the work, the department used 22 over-the-road stripers. The operation includes a nurse truck, attenuator trucks and a lead truck.

During the striping season, bulk paint storage facilities were started in Kansas City and Macon. These assemblies consist of two bulk paint tanks that can hold 10,000 gallons each of white and yellow paint. In 1992, the department set up three more bulk paint operations in St. Joseph, Springfield and Sikeston.

In calendar year 1992 the department placed about 19,933 miles of no passing zones.

The division coded and placed in the accident data record system 71,996 accidents on the state highway system during the fiscal year 1993. The Missouri State Highway Patrol and about 565 city and county enforcement agencies provided the reports.

he division continued its 120/Medium Improvement Program in fiscal year 1993, investigated eight locations where more accidents than normal had been occurring and implemented corrective measures at the spots.

Maintenance and Traffic investigated 100 locations that had 20 or more accidents throughout a three-year period and evaluated countermeasures for possible federal funding under Federal Highway Safety Program. This division provided the Planning Division with 11 locations to be put on the Right of Way and Construction Program at an estimated cost of \$1.8 million.

The 44th Annual Traffic Conference was held April 27-29, 1993, in Columbia. County, city, state and federal government representatives attended this two-day conference on solving traffic problems. Before the conference, Martin R. Parker Jr., P.E., presented a workshop on "Human Factors -- the Role Expectancy: Behavior in Highway Design and Traffic Control."

The program of monitoring peak period freeway traffic in the Kansas City and St. Louis areas was continued during 1993. The location and severity of congestion on about 170 miles of freeways was documented.

Low capital improvement projects have been or are being implemented. These include closing the ramps at Interstate 70 and Riverview in the St. Louis area, which has been completed.

A freeway incident management plan was developed for both Kansas City and St. Louis areas resulting in the implementation of a Motorist Assist Program on segments of the interstates in both cities.

Consultant studies with 80 percent funding by the Federal Highway Administration (FHWA) is under way in St. Louis and one pending in Kansas City to study freeway managment using Intelligent Vehicle Highway System (IVHS) technologies.

Maintenance materials used during calendar year 1992:

MaterialAmount usedVarious Types of Asphalt35,391,530 gallonsVarious Types of Aggregate1,235,405 tonsSodium Chloride (winter 92-93)209,190 tonsCalcium Chloride (winter 92-93)2,273 tonsLiquid Calcium or
Magnesium Chloride (winter 92-93)953,000 gallonsSeed63,604 pounds

he Planning Division's efforts in fiscal year 1993 focused on planning for the state's future highway system. To do this, the division collected and maintained financial and roadway information, determined existing and future highway needs and developed planned improvements and financial programs to fulfill those needs.

The Long-Range Planning Section experienced a metamorphosis from highway planning into multimodal planning, sparked in part by the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Four new planning positions were created to plan for the seamless movement of people and goods across all modes of statewide transportation. Specific attention was added to include the connections between modes, non-motorized transportation and other factors such as land use planning, economic development and the environment.

The groundwork for a comprehensive public involvement program was developed to allow the public access to the long-range planning process. The section compiled the state's first comprehensive Statewide Transportation Improvement program (STIP) document and the 1992 Bridge Service Rating Manual. Ongoing analyses were conducted including economic and road user costs, safety and construction prices, flood data and program monitoring.

The Programming Section prepared the 1994 Highway Right of Way and Construction Program that shows improvements scheduled for the next 14 years. The section also prepared monthly updates on the progress of Proposition A

The comprehensive planning process continued in the state's six urban areas. This process requires cooperation between the department, local jurisdictions and metropolitan planning organizations. The process develops and updates multimodal, long-range plans and transportation improvement programs in the urban areas of Kansas City, St. Louis, Springfield, St. Joseph, Columbia and Joplin.

The Traffic Section made approximately 4,500 portable vehicle counts and collected continuous count data at 108 permanent sites on the state's 32,000 miles of highways in fiscal year 1993. Speed surveys to determine compliance with the 55 mph speed limit were conducted at 34 statistically selected locations throughout the state. Vehicle miles of travel increased 4.6 percent from 1991, making 1992 the 11th year in a row of record-increasing travel in Missouri.

Automatic vehicle classification data was collected at 100 sites, and trucks were weighed with weigh-inmotion equipment at 30 sites for department information. Automatic vehicle classification and weigh-inmotion data was collected at 18 sites for the Strategic Highway Research Program (SHRP).

The section also prepared an annual vehicle report for 1992. The report includes information on travel for Missouri's roads and streets. Through roadside interviews with motorists, MHTD gathered selected travel characteristics at 21 locations within the state. The information from these studies was used to determine needs and plan improvements for the locations.

Planning

Division

The Pavement Management Section was formally split out of the Traffic Section during this time period as MHTD placed greater emphasis on the development of management systems. The section continued to perform automated condition surveys of approximately 20,000 miles of pavements on the state system. This data was used to develop the department's resurfacing program. The department's Automatic Road Analyzer (ARAN) was updated, and additional staff hired to perform the increased responsibilities required under ISTEA.

The mapping and drafting area of the Systems Support Section develops and publishes the official state map and county and city maps. It also prepares artwork and graphic displays for MHTD. The division produced 3.5 million copies of the 1993-1994 Official Highway Map.

Systems Inventory collects and maintains current and historical project data including roadway information and construction costs. Data regarding system mileage and log miles are also maintained.

A complete functional classification for all rural highways was submitted and approved by the Highway and Transportation Commission.

Cities of between 5,000 and 50,000 population received assistance in updating their functional classification and urban boundary changes. A proposed National Highway System was developed and submitted to the FHWA for approval. Information was compiled to update the National Highway Performance Monitoring System in urban areas.

A five-year demonstration project on the wearing surface of the Poplar Street Bridge

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continued. The pooled-fund, crash test program continued. The department agreed to participate in two FHWA pooled-fund projects. One deals with the durability of synthetics, and the other concerns the testing and evaluation of traffic signals.

The Technology Transfer Assistance Program continued to link the sources of technology and the agencies that can make use of it. This program with educational and training emphasis has been expanded to target the six metro-

politan areas. Through workshop instruction, guidesheets, videos and quarterly newsletters, the program has encouraged field use of technology. The cities and counties have become more aware of the available program, and a positive relationship continues to develop.

Additional workshops have been made available to match the urban customers' needs. Communications with the rural transportation agencies have been enhanced by participating in district county commissioner meetings throughout the state.

Public Affairs Division

The Public Affairs Division keeps Missouri
Highway and Transportation Department (MHTD)
employees and the public informed about department activities.
Public interest in highway and transportation matters continued at a high level during fiscal year '93, and the public Affairs Division responded by

Public Affairs Division responded by increasing the dissemination of information. To do this, the division used news releases, magazines, brochures, leaflets, fact sheets, videos, slide films, exhibits and displays, radio and television programs and public speaking engagements.

Public Affairs personnel keep in contact with the state's news media and routinely distribute information to the media.

During fiscal year 1993, the division prepared and distributed about 125 news releases. In addition, numerous special articles, feature stories and photographs were supplied to magazines, newspapers and other publications. July 1, 1989, the division contracted with an external statewide newspaper clipping service to keep officials informed of department coverage and comment. The division distributes copies of these clips to division and district offices.

The division often helped in the groundbreaking and formal opening ceremonies of major road and bridge projects. Division personnel developed speeches, brochures and the department's annual report.

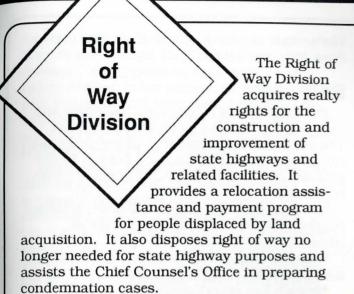
The division monthly published and distributed the "Missouri Highway and Trans-

portation News." The MHTD News is the department's employee newspaper with a circulation of more than 10,500.

Per month, the division answered approximately 1,000 mail and telephone requests about maps, road information, routings, educational material and films.

The division supervised the distribution of more than one million highway maps, many of which were given out at the Missouri State Fair. Public Affairs personnel helped staff the annual fair exhibit in the Highway Gardens, a roadside park on the fairgrounds.

The department's technical and video library also continued to be housed in the division.



During fiscal year 1993, the cost of right of way acquired for highway construction totaled \$43,292,464.43.

The division acquired 949 parcels of land. This number includes 763 parcels acquired by negotiated settlement and 179 by condemna-

tion, or 80 percent acquired by negotiation and 19 percent by condemnation.

Total payments of \$1,497,364.86 were made in fiscal year 1993 under the Relocation Assistance and Payment Program to help relocate displaced families and business and farm operations. During the fiscal year, 343 relocation claims were processed and paid.

During fiscal year 1993, the division obtained 995 appraisals. Each month an average of 83 appraisals were produced. The division's total appraisals also includes 436 damage statements prepared on parcels with an estimated value of \$2,500 or less.

The sale of improvements located on right of way acquired for highway construction and excess property totaled \$1,171,271 during fiscal year 1993. And rental of airspace, excess property and property acquired for future construction equaled \$336,518.65.



Aviation section personnel give information or technical advice to airport sponsors and others who are interested in the establishment, improvement or promotion of aeronautical facilities.

The aviation section provides financial assistance to cities, towns, counties or airport authorities in the state through two grant programs. The capital improvement grant program gives financial assistance for planning and construction or expansion to sponsors of publicly owned airports. Funds under this

program are granted on a 80 percent state/20 percent local matching basis.

Under the airport maintenance program, funds may be granted to airport sponsors on a 80 percent state/20 percent local basis for maintenance on runways, taxiways and parking aprons. These programs are financed from the fuel tax applied to aviation gasoline and from general revenue appropriation.

A portion of the fuel tax revenue is used for the annual publishing and distribution of the Missouri Aeronautical Chart and Airport Directory. The aviation section published 13,000 copies of the chart/directory at a cost of \$7,373.

As a result of the Airline Deregulation Act of 1978, the aviation section monitors the small community essential air service program that is regulated by the Department of Transportation. A requirement of the act is that all actions affecting the air service to smaller communities must be coordinated with state aviation agencies.

During fiscal year 1993, the section performed 95 airport inspections and 172 obstruction evaluations; one objection was filed.

Missouri has 352 airports and six seaplane bases. Of these, 143 facilities are open to the public, and 215 are for restricted use. There

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are 5,475 registered aircraft and 12,040 registered pilots in the state. Eight airports provide scheduled air transportation and enplaned about 13 million passengers annually.

The aviation section received and processed 52 applications for financial assistance under the airport capital improvement, maintenance and block grant programs. The section expended \$253,319 on 10 capital improvement grants and \$570,443 on 15 maintenance grants. Aviation's capital improvement grant program is an 18-month program. Consequently, data for this report is a combination of fiscal year 1992 and fiscal year 1993 projects.

In May 1989, the Federal Aviation Administration (FAA) selected Missouri, along with Illinois and North Carolina, to conduct a block grant demonstration program. Under this program, MHTD's aviation section will administer all federal airport improvement funds for airports that enplane less than 10,000 passengers per year. For federal fiscal year 1993, the aviation section received \$12.9 million in federal money. The section expended \$3,192,417 on 31 grants that were in progress during fiscal year 1993. The demonstration program extends through Sept. 30, 1996. The purpose of the program is for the states to administer the federal aid program for smaller airports for the FAA.

Third State Economic Development projects were in progress at six Missouri airports during fiscal year 1993. A total of \$295,666 was expended for these projects.

The Missouri State Airport System Plan Update was submitted to the FAA for review and approval.

n 1990, the aviation section began obtaining aircraft activity counts at selected airports. The activity counts provide more accurate data for the Missouri State Airport System Plan. The counts are obtained by placing acoustic monitors near runways four times a year. The four counts are then calculated for an annual operations number for each airport. During fiscal year 1993 counts were obtained at 24 airports.

The aviation section is involved with the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on Aviation, National Association of State Aviation Officials (NASAO) Finance Committee, NASAO Strategic Planning Group, St. Louis Regional Commerce and Growth Association Aviation Committee, and the St. Louis Airspace Users Advisory Committee.

The section also monitors the Scott Air Force Base Joint Use Study.

Railroads

The railroad section provides, maintains and improves rail transportation within Missouri. The section administers rail planning programs, rail project implementation, the Amtrak 403(b) program and the railroad-highway grade crossing program.

In fiscal year 1993, the rail planning activities program carried out many different items including the following:

*railroad data collection to be included in the next scheduled Rail Plan Update;

*branch line abandonments;

*the monitoring and implementation of federal rail legislation;

*continuation/expansion of the Local Rail Freight Assistance program; and

*other general railroad matters.

The rail project implementation program involved three rail projects. They are as follows:

*5.5 miles, Green Hills Rural Development Inc., Locust Creek to Swan Lake Refuge — Rehabilitation completed; final audit in progress.

*1.6 miles, Scott City Port Access Project — Excavation work completed in September 1992; final audit in progress.

*21.7 miles, Columbia to Centralia — Phase II rehabilitation work completed in April 1992. Grant agreement executed in March 1993 for Phase III and IV rehabilitation.

Missouri provides rail passenger service between St. Louis and Kansas City through the Amtrak 403(b) program. The "Ann Rutledge" and the "St. Louis/Kansas City Mules" trains are subsidized by a ratio of 65 percent state funding and 35 percent Amtrak funding. During fiscal year 1993, these two trains carried 201,569 passengers.

Passenger station improvement activities included the installation of a fire and security system at the Warrensburg station. Also, additional lighting was installed at the Sedalia station.

The Transportation Division is the communication link between the department and rail-roads for projects involving railroad-highway crossings.

Grade separation and at-grade crossings form the majority of projects administered by this division. Grade separation projects, such as highway bridges over railroads, involve

personnel in the Chief Counsel's Office and

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several divisions including Planning, Right of Way, Bridge, Design and Construction. These divisions' efforts must be coordinated and communicated to the railroad to secure approval of plans and execution of agreements and easements. The Transportation Division is pursuing 29 projects improving or constructing highways over or under railroads.

The Transportation Division is also responsible for coordinating and administering a program to improve at-grade highway/rail crossings throughout the state. This fiscal year the state of Missouri will have the oportunity to obligate more than \$3.5 million of federal highway funds. These funds are matched by the State Grade Crossing Safety Fund and by the railroads. The funds pay for improving safety at or near highway/rail crossings. This funding aids the installation of flashing light signals with gates, state-of-the-art computer circuitry and high-type crossing surfaces if the crossing warrants.

Transit

The transit section assists in the planning, developing and operating of the state's public transit and specialized paratransit systems. This function is carried out through the administration of state and federal programs relating to general public transportation and specific programs for the elderly and handicapped.

The Missouri Elderly and Handicapped Transportation Assistance Program provided state financial assistance for 170 nonprofit organizations offering transportation services to the elderly and handicapped at below-cost rates. For fiscal year 1993, program appropriations were \$1,471,755.

The 10 area agencies on aging received \$795,002 in state funds to supplement federal funds for elderly transportation. An additional \$106,229 was available to 61 organizations working with older Missourians.

State funds totaling \$467,500 were available to 109 sheltered workshops, group homes and other handicapped facilities to assist in transportation.

The department helped subsidize 3,877,806 special transportation trips. The total cost of these trips was \$12,349,755

Thirty-one small urban and rural general public transit systems received financial and technical support from MHTD. Federal financial assistance is available under Section 18 of the Federal Transit Act, as amended, and allocated to the various systems by MHTD.

he 31 small urban and rural systems had a combined operating budget of \$8,896,881; \$2,405,287 was provided by the department.

The systems operated 344 vehicles, logged 7,186,414 miles and provided more than 2,263,478 trips.

Section 9 of the Federal Transit Act provides formula capital and operating assistance to transit systems in urban areas of more than 50,000 population. The department administers this program for Columbia, Springfield, St. Joseph and Joplin.

Capital assistance to nonprofit organizations and public entities giving transportation service to the elderly and persons with disabilities is provided by Section 16 of the Federal Transit Act of 1991. In fiscal 1993, the program provided \$1,050,767 in federal assistance. This was matched with \$262,762 in local funds to purchase 59 vehicles for 38 organizations, many of which were equipped with special equipment to insure compliance with the Americans with Disabilities Act of 1990.

There are 166 organizations operating 504 Section 16 vehicles statewide, providing more than 2,500,000 trips to eligible clients.

The Americans With Disabilities Act of 1990 has had an effect on the work load of the transit staff. Increased responsibilities include reviewing and certifying, on behalf of the state to Federal Transit Administration (FTA), the implementation of Complementary Paratransit Service for fixed route providers and insuring full compliance of vehicles and facilities for all other agencies funded through this department.

The transit section gave staff support for the Coordinating Council on Special Transportation. The council is reviewing special transportation plans statewide and will make recommendations based upon these plans. The council continues to investigate problems in the delivery of special transportation services in Missouri and recommend solutions to the governor and General Assembly.

Transit also administers the Rural Transportation Assistance Program — a training and technical assistance function funded by the FTA. Training courses offered include defensive driving, CPR and first aid, passenger assistance techniques and emergency procedures. Technical assistance is offered in the areas of vehicle procurement and maintenance. During the fiscal year 1991, there were 80 on-site driver

training programs offered involving about \$1,050 drivers.

The transit section has made grant applications for national discretionary financial assistance under Section 3 of the Federal Transit Act. The first application was funded at \$2,555,550; the second application was funded at \$785,000, and the third one at \$5,117,000. Fourth and fifth applications are pending for funding at this time. The first and second applications funded the purchase of 133 vehicles and other supporting equipment while the third application funded the construction of a park and ride facility.

The transit section has been funding the transit planning efforts of the Metropolitan Planning Organizations (MPO) in areas of more than 50,000. Recent changes in federal law now require the department to received federal Section 8 planning assistance and pass on these funds to the MPOs. Section 26(A)(2) of the Federal Transit Act may be used to fund special transit studies as well.

Waterways

Waterways provides technical assistance to Missouri port authorities in promoting private capital investment, in increasing the volume of commerce and in establishing a free trade zone within their port districts. Every city or county situated upon a navigable waterway may form a port authority. Fifteen port authorities have been formed along the Missouri and Mississippi rivers. The department is frequently contacted

by interested communities concerning the port authority program.

During fiscal year 1993, a capital improvement project was completed at the Mississippi County Port Authority. The value totaled \$632,500. Work continues statewide on seven port capital improvement projects that were funded during 1986, 1989, 1990, 1991 and 1992.

In addition to providing technical assistance, funding was also provided to assist port authorities in the administration of their port development programs. During the year, \$294,987 in grants was expended by 14 port authorities. These funds are used by the recipients for managerial, engineering, legal, research, promotional, planning and other nonconstruction-related expenses.

Port development administrative grants

Howard/Cooper County Regional	\$ 24,000
Jefferson County	9,600
Kansas City	14,400
Lewis County-Canton	24,000
Marion County	16,007
Mississippi County	14,400
New Bourbon	38,400
New Madrid County	33,600
Pemiscot County	33,600
Southeast Missouri Regional	39,000
St. Joseph Regional	7,680
St. Louis City	14,400
St. Louis County	14,400
TOTAL	\$294.987

Statement of receipts and disbursements for fiscal year 1993

Highway	Receipt	Disbursements
Basic Revenue:		
Motor Vehicle License	\$182,575,575.07	
Dept. of Economic Development	2,592,267.14	
Motor Vehicle Use Tax	32,494,138.97	
Drivers License Fees	12,340,405.33	
Motor Vehicle Inspection Fees	2,331,153.75	
Motor Fuel Tax Receipts	353,985,863.33	
Vehicle Sales Tax Receipts	62,901,538.08	
Sub-Total	649,220,941.67	
Other Revenue:		
Misc. Escrow Fees	11,303,842.01	
Reciprocity Fund Interest	74,206.22	
Road Fund Interest	1,759,752.15	
Other Miscellaneous	25,220,834.15	
Sub-Total	38,358,634.53	
Padaral Dalmhamannati		
Federal Reimbursement: Federal Highway Administration	047 707 400 00	
Corps of Engineers	347,707,482.92	
Sub-Total	717,270.74 348,424,753.66	
Sub-Total	348,424,753.00	
Construction		527,400,905.07
Maintenance		217,132,205.89
Administration		76,845,501.59
Refund of Motor Fuel Tax		30,438,436.44
Legal Expense Fund		310,595.16
Highway Revenue Generating Fund		4,150,000.00
O.A.S.I. (Highway)		13,171,084.36
Other State Departments O.A.S.I.		5,245,378.62
Other State Departments (From Hwy.	Fund)	<u>120,735,141.01</u>
TOTAL FOR HIGHWAY	1,036,004,329.86	995,429,248.14
Transportation		
Administration		1,678,910.46
Transit		8,740,453.47
Rail		1,800,078.48
Aviation		4,195,908.71
Water		63,910.29
General Revenue Fund	3,435,139.32	
Federal Fund	11,815,855.86	
State Transportation Fund	640,483.46	
Aviation Trust Fund	<u>527,425.78</u>	
TOTAL FOR TRANSPORTATION	16,418,904.42	16,479,261.41
Mississippi River Parkway Commission	n 7,713.00	7,713.00
Third State Building Trust Fund	173,503.83	173,503.83
GRAND TOTALS	1,052,604,451.11	1,012,089,726.38

Our mission is to provide a quality transportation system that responds to Missourians' demands and enhances the state's growth and prosperity.



